

AREA G

An increasing trend in ^{239}Pu and ^{241}Am has been occurring at a location within Area G. Two stations are co-located in this location (Station #27 and #38). The stations are co-located for QA purposes and both stations show about the same results. No other stations at Area G or stations in White Rock show elevated results. Further, the elevated results are limited to these two radionuclides. The upward trend began in 1995, with the majority of the increase occurring in 1996 and early 1997. Personnel from Area G, ESH-17, and ESH-19 worked together to investigate the cause of this trend.

During the week of May 19, 1997 a survey of the area was performed using a direct reading radiological survey instrument and indicated an area of ^{241}Am surface contamination near the station locations. Discussion with Area G personnel revealed that in 1995, when the elevated readings first appeared, some trenching work had been performed within several meters of the two stations. Additionally, the dirt access road in the vicinity of the stations was relocated in the spring of 1996, coincident with a very significant increase in air concentration. A second trenching operation was also completed at about this time. It appears that contaminated material was brought to the surface during the trenching and that local traffic transported some of the material toward the air monitoring stations.

Although the elevated results did not indicate either a compliance issue or a health and safety concern, a mitigation plan was devised. The mitigation included covering the surface contamination with a mix of gravel and sand in order to isolate the contamination. Relevant air sampling data were analyzed at an increased frequency (biweekly instead of quarterly) after this mitigation measure was completed to evaluate the effectiveness of the remediation. Results are now available and show a very significant decrease in air concentrations since the remediation. (please see chart below).

During the approximately nine months following the remediation, air concentrations of Pu-239 have decreased from about 1,600 to 47 aCi/m³ and Am-241 levels have dropped from around 1000 to 44 aCi/m³. Although these are very significant reductions, the concentrations do not appear to have dropped to pre-1995 levels. Area G personnel have been informed of this situation and are considering what additional mitigation efforts may be necessary. ESH-17 will continue their follow-up evaluations and updates will be posted as they become available.

Air Concentrations at Station #27 at Area G

